

B²
cont -

is pushed upward against the force of the spring to release the protection of the needle B122. The moving position of the carriage B104 is detected by an encoder sensor B131 of the carriage B104 and a linear scale B132 (see FIG. 6) of the body of the printing unit B100. The movement of the carriage B104 to the home position is detected by an HP (home position) plug B133 of the carriage B104 and an HP sensor B134 (see FIG. 7) of the body of the printing unit B100.

The paragraph beginning at line 11 of page 24 has been amended as follows:

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The media pack C100 has a waste introduction opening C120 (see FIG. 4) into which a waste joint B313 (see FIG. 10) installed at the tip of the waste tube B312 of the printing unit B100 is inlet. The media pack C100 is provided with a waste ink absorber C107 for containing waste ink introduced via waste introduction opening C120 from the pump cylinder B304.

IN THE CLAIMS:

Please cancel Claims 8, 19 to 24, 32 and 33 without prejudice or disclaimer of subject matter.

Please re-write the remaining claims to read as follows. Note that all the claims currently pending in this application, including those not presently being amended, have been reproduced below for the Examiner's convenience. A marked-up copy, showing the changes made to the claims, is attached.

1. (Amended) An ink tank for an ink-jet printing apparatus comprising:

(i) an ink container containing an ink;

(ii) an ink inlet for introducing an ink to the ink container; and

(iii) an air outlet for making the ink container under negative pressure in

cooperation with the ink-jet printing apparatus, an ink being introduced to the ink container through the ink inlet when negative pressure is applied to the ink container,

wherein the ink tank further comprises gas-liquid separation means which does not pass liquid but gas at the air outlet, and wherein the ink has surface tension of 28 mN/m or higher but not higher than 50 mN/m; and wherein

an inner surface of the ink container has been subjected to a surface processing.

2. (Unamended From Previous Version) The ink tank according to claim 1,

wherein the gas-liquid separation means comprises a porous material.

3. (Unamended From Previous Version) The ink tank according to claim 2,

wherein the porous material is a porous resin material.

4. (Unamended From Previous Version) The ink tank according to claim 3,

wherein the porous resin material is a tetrafluoroethylene resin.

5. (Unamended From Previous Version) The ink tank according to claim 2, wherein the porous material is selected from the group consisting of unglazed porcelain, earthenware and ceramics.

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cont.

6. (Unamended From Previous Version) The ink tank according to claim 1, wherein the ink tank contains an ink absorbing member capable of absorbing and holding the ink in the Ink container.

7. (Unamended From Previous Version) The ink tank according to claim 6, wherein the ink tank has a space between the gas-liquid separation means and the ink absorbing member.

8. (Cancelled)

9. (Amended) The ink tank according to claim 1, where the surface processing is a water-repellent processing.

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10. (Amended) The ink tank according to claim 1, wherein the ink tank further comprises an ink outlet for discharging the ink in the ink container to the outside.

11. (Unamended From Previous Version) The ink tank according to claim 10, wherein an ink-jet recording head capable of ejecting the ink is connected to the ink outlet.

12. (Unamended From Previous Version) The ink tank according to claim 1, wherein the ink has surface tension of 35 mN/m or higher and not higher than 50 mN/m.

13. (Unamended From Previous Version) An ink cartridge comprising an ink tank of claim 1 and an ink-jet recording head for ejecting an ink in the ink tank.

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cont.

14. (Amended) An ink cartridge comprising an ink tank of claim 1 and an ink-jet recording head for ejecting the ink in the ink tank, wherein the ink-jet recording head is connected to an ink outlet of the ink tank.

15. (Amended) An ink system comprising:
a first ink tank comprising an ink tank according to Claim 1;
an ink supply device for providing ink to said first ink tank, the ink supply device comprising:
(i) a second ink tank for storing the ink to be introduced to the ink container of the first ink tank;
(ii) means for connecting the second ink tank with the ink inlet of the first ink tank; and

(iii) means for reducing a pressure in the ink container of the first ink tank through the air outlet of the first ink tank when the second ink tank is connected to the ink inlet of the first tank.

16. (Unamended From Previous Version) The ink supply device according to claim 15, wherein the connection means comprises an ink supply path communicated to the second ink tank, and a joint at an end of the ink supply path, the joint being connectable to the ink inlet of the first ink tank.

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cont. 17. (Amended) The ink supply device according to claim 16, wherein the ink inlet of the first ink tank is provided with a hollow needle, and the ink is introduced from the second ink tank to the ink container through the needle and wherein the joint connects to the needle.

18. (Unamended From Previous Version) The ink supply device according to claim 15, wherein the pressure reducing means comprises a suction pump to reduce a pressure in the ink container through the air outlet.

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Amended) An ink tank for an ink-jet printing apparatus, comprising

(i) an ink container containing an ink;

(ii) an ink inlet for introducing an ink to the ink container; and

(iii) an air outlet for making the ink container under negative pressure in

cooperation with the ink-jet printing apparatus, an Ink being introduced to the ink container through the ink inlet when negative pressure is applied to the ink container;

wherein an inner surface of the ink container has been subjected to a surface processing; and.

wherein the ink tank further comprises a gas-liquid separation means which does not pass liquid but gas at the air outlet, and wherein the ink contains a surfactant in an amount of 1 wt % or less based on the total ink weight.

26. (Amended) A process for introducing an ink to a first ink tank for an ink-jet printing apparatus, the first ink tank comprising:

(i) an ink container containing an ink;
(ii) an ink inlet for introducing an ink to the ink container;
(iii) an air outlet for making the ink container under negative pressure in cooperation with the ink-jet printing apparatus, an ink being introduced to the ink container through the ink inlet when negative pressure is applied to the ink container; and
(iv) gas-liquid separation means which does not pass liquid but gas at the air outlet,

the process comprising the steps of:

connecting a second ink tank containing an ink to be introduced into the ink container of the first ink to the ink inlet; and

reducing pressure of the ink container of the first ink tank while the second ink tank and the ink inlet are being connected;

wherein an inner surface of the ink container has been subjected to a surface processing.

27. (Amended) The process according to claim 26, wherein the gas-liquid separating means comprises a gas permeable membrane made of a porous material.

28. (Amended) The process according to claim 27, wherein the gas permeable membrane is a resin porous material.

29. (Amended) The process according to claim 28, wherein the resin porous material is a tetrafluoroethylene resin.

30. (Amended) The process according to claim 26, wherein the method further comprises a step of stopping ink supply to the ink container when an ink level in the ink container has reached to the gas-liquid separation means.

31. (Amended) An ink tank for an ink-jet printing apparatus, comprising:

(i) an ink container containing an ink;

(ii) an ink inlet for introducing an ink into the ink container; and

(iii) an air outlet for making the ink container under negative pressure in

cooperation with the ink-jet printing apparatus, an ink being introduced to the ink container through the ink inlet when negative pressure is applied to the ink container,

wherein the ink tank further comprises a gas-liquid separation membrane which does not pass liquid but gas at the air outlet, wherein the ink is free from disturbing gas permeability of the membrane, and wherein an inner surface of the ink container has been subjected to a surface processing.

32. (Cancelled)

33. (Cancelled)